

21. A NEW RECORD OF *TURBINARIA PATULA* (DANA, 1846) (SCLERACTINIA, DENDROPHYLLIIDAE) IN TUTICORIN, GULF OF MANNAR BIOSPHERE RESERVE

Family Dendrophylliidae is solitary or colonial, mostly azooxanthellate except the genera *Turbinaria*, *Duncanopsammia* and *Heteropsammia* which are hermatypic (reef building; *Balanophyllia*, *Endopsammia*, *Tubastrea*, *Dendrophyllia* and *Enallopsammia* are ahermatypic (non-reef building). In *Turbinaria*, most of the species are foliose forms (leaf-like or vertical/horizontal plates). The present genus is recorded in all the four major coral reefs in India (Venkataraman *et al.* 2003). Worldwide, eleven species of the genus *Turbinaria* have been recorded till date (Veron 2000). In India, only three species of *Turbinaria* (*T. peltata*, *T. reniformis* and *T. mesenterina*) are reported, so far, from the four major reefs. The present note reports an additional species to the above genus.

Description

Phylum: Cnidaria
 Class: Anthozoa
 Subclass: Zoantharia De Blainville, 1830
 Order: Scleractinia Bourne, 1905
 Family: Dendrophylliidae Gray, 1847
 Genus: *Turbinaria* Oken, 1815

Turbinaria patula (Dana, 1846) (Figs 1-2)

1846. *Gemmipora patula* Dana, U.S. Exploring Exped. 1838-1842. 7, 1-740.

1886. *Turbinaria patula* (Dana); Quelch, Rep. Sci. Results Voyage *H.M.S. Challenger Zool.* 16(3), 1-203, pls. 1-12.

1980. *Turbinaria patula* (Dana); Veron and Pichon, Scleractinia of Eastern Australia, Part III, 379-380, pls. 663-669.

2000. *Turbinaria patula* (Dana); Veron, Corals of the World, 2, 389, pls. 1-4.

Representatives of Family Dendrophylliidae are solitary or colonial, mostly ahermatypic. Corallite walls are porous, usually composed of coenosteum. Septa are fused in a distinctive pattern called *Pourtales Plan* (Inner margins of higher order septa curve to adjacent septa and fuse) (Veron and Pichon 1980; Venkataraman *et al.* 2003).

The colonies of genus *Turbinaria* are hermatypic, large explanate, crateriform, contorted or foliaceous. Corallites are united nearly to the summits by an extensive coenosteum and have porous synapticulothecate walls. *Pourtales plan* is apparent only in early stages. The columella is well developed (Veron 2000; Venkataraman *et al.* 2003).

Material collected: During the status survey on

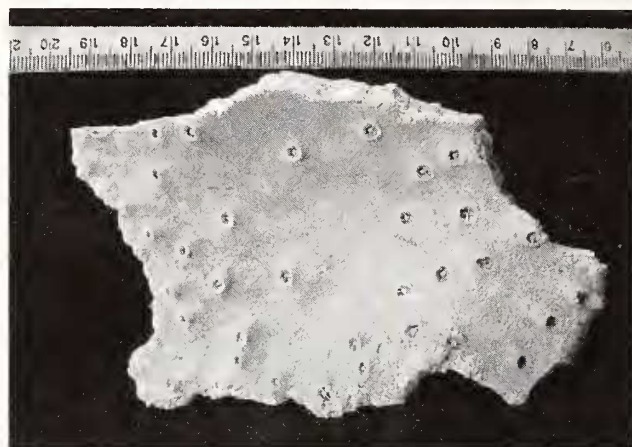


Fig. 1: *Turbinaria patula* colony

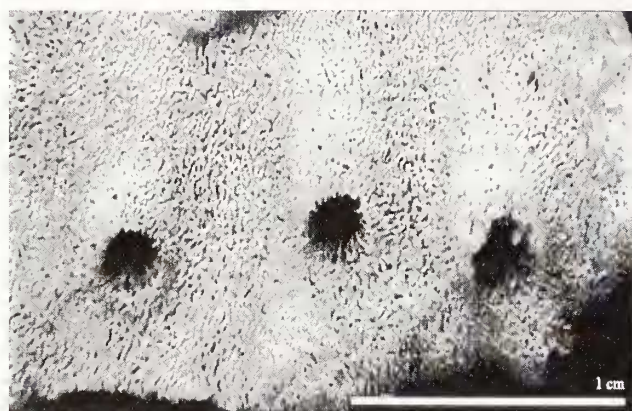


Fig. 2: Corallites of *Turbinaria patula*

GoMBR (December 8, 2001), a colony of *T. patula* was collected in the shore near Tuticorin, Gulf of Mannar Biosphere Reserve, by K.P. Raghuram, Marine Biological Station, ZSI, Chennai.

Characters: Colonies are foliose and unifacial, corallites are not closely packed in the centre of the colony (Fig. 1). Corallites are tubular and inclined towards the margin (Fig. 2). Corallites are 3.7-4.0 mm in diameter and the distance between neighbouring corallite measures 7.8 ± 4.1 mm ($n = 14$). Septal cycles are obvious and dentate. Columellae are well developed and broad. Coenosteum is porous.

Distribution: This is a new record to India. Worldwide it is distributed throughout Indonesia, Marshall Islands and the Great Barrier Reef, Australia.

Remarks: *Turbinaria patula* is similar to *T. peltata*. In the Gulf of Mannar, *Turbinaria* colonies are mostly found in turbid environment. *T. peltata* (Esper 1794) and *T. mesenterina* (Lamarck 1816) have been recorded by Pillai (1983).

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REFERENCES

- PILLAI, C.S.G. (1983): Studies on corals. *J. mar. biol. Assoc. India* 25(1 & 2): 78-90.
VENKATARAMAN, K., CH. SATYANARAYANA, J.R.B. ALFRED & J. WOLSTENHOLME (2003): Handbook on Hard Corals of India. Zoological Survey of India. 266 pp.
VERON, J.E.N. (2000): Corals of the World. Australian Institute of Marine Science, Australia, 2: 429 pp.
VERON, J.E.N. & M. PICHON (1980): Scleractinia of Eastern Australia. *Aus. Inst. of Mar. Sci.* Vol. 4, 421 pp.

22. PARASITIC INFESTATION OF THE CLAM, *MARCIA OPIMA* (GMELIN)

Reproductive studies on the clam *Marcia opima* from two geographically separated areas were conducted at the Tuticorin Research Centre of Central Marine Fisheries Research Institute. The clams were collected from Tuticorin Bay, Tamil Nadu (8° 45' N and 78° 12' E) and from Ashtamudi Lake, Quilon (9° 28' N and 76° 28' E). Sampling was done from December, 1998 to January, 2000. To identify the sex and maturity stages of the collected clams, gonad smears were observed under a microscope.

During the course of the study, infestation of the gonad by the larvae of trematode parasite *Bucephalus* sp. was observed in the clams collected from Tuticorin Bay. Infestation was noticed during December 1998, January 1999 and May 1999. The lengths of the infested clams ranged from 31.6 mm to 34.6 mm. The percentage of infection ranged from 5 % to 10% of the total sampled population.

There was no trematode infestation in the clams collected from Ashtamudi lake. However, a single incidence of fungal infection was observed in a clam 51 mm long in March, 1999. In May 1999, 10% of the sampled clams, with length ranging from 34.8 mm to 40.7 mm, were found to be infested by the pea-crab, *Pinnotheres* sp.

Bucephalid infestation in *Meretrix casta* was reported by Durve (1964). Silas and Alagarswami (1967) and Harkantra (1976) reported *Pinnotheres* infestation in *Meretrix casta*. Thangavelu and Sanjeevaraj (1985) reported occasional occurrence of larval forms of the trematode parasite *Bucephalus haemanus* in *M. casta*. Hesselman *et al.* (1989)

observed trematode infestation in *Mercenaria* sp. Parasitic infestation of the clam *M. opima* has not been reported earlier, and this is the first report.

In the present study, it was observed that the presence of parasites caused gonad destruction. Hence, the sex of the infested clams could not be made out. The meat of the clams was found to be thin, transparent and watery. The same manifestations were observed by earlier workers also.

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REFERENCES

- DURVE, V.S. (1964): Preliminary observations on the seasonal gonadal changes and spawning in the clam *Meretrix casta* (Chemnitz) from the marine fish farm. *J. mar. biol. Ass. India* 6(2): 241-248.
HARKANTRA, S.N. (1976): Benthos of the Kali estuary, Karwar. *Mahasagar* 8(1): 53-58.
HELSELMAN, D.M., B.J. BARBEL & N.J. BLAKE (1989): The reproductive cycle of adult hard clams, *Mercenaria* sp. in the Indian River